Bad Chemistry

How the Chemical Industry's Trade Association Undermines the Policies that Protect Us

Center for Science and Democracy
at the Union of Concerned Scientists

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{cSD Center for Science and Democracy at the Union of Concerned Scientists

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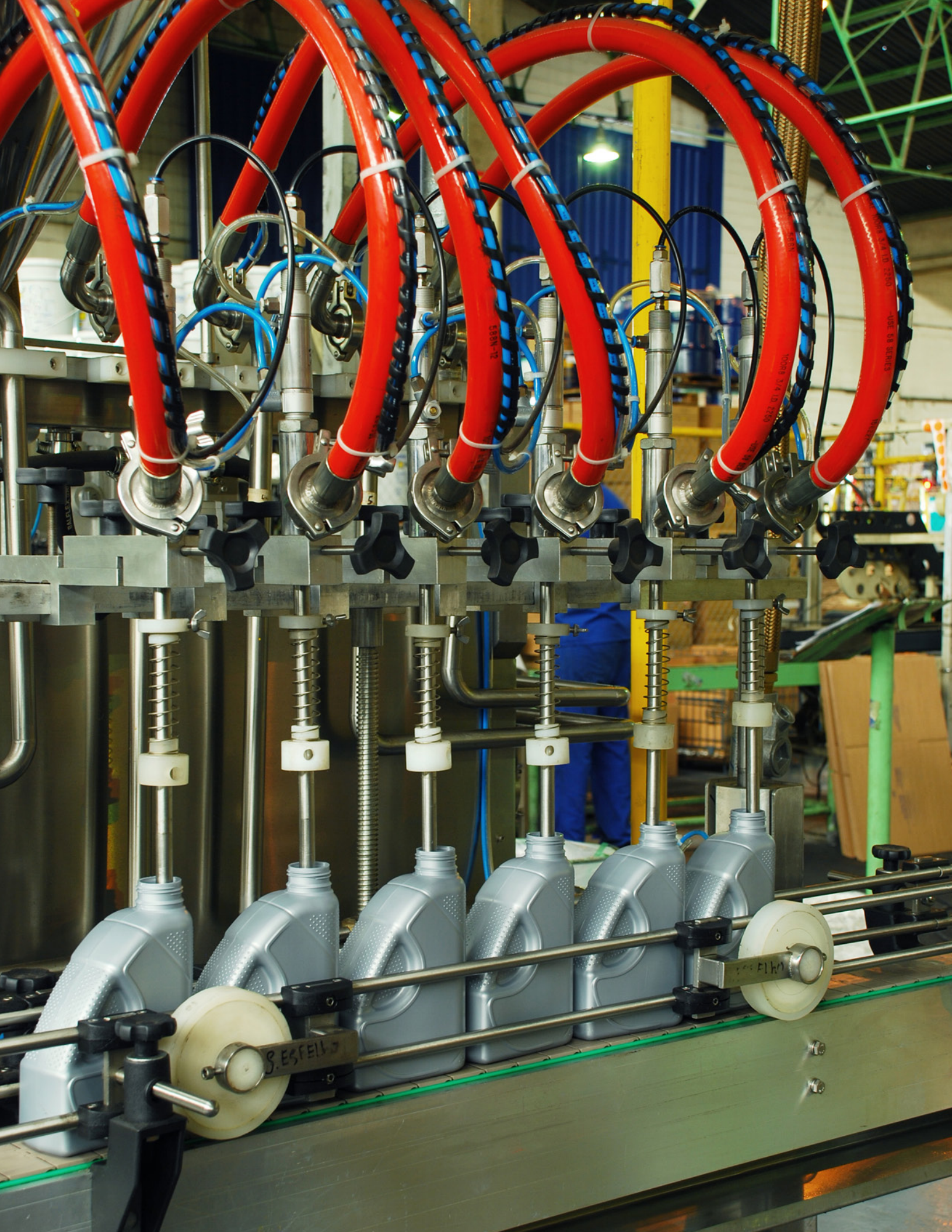

The American Chemistry Council (ACC) may not be a household name, but its strong influence on chemical policies has affected millions of Americans—and many of these chemicals are undoubtedly in your household.

The industry trade group, which includes major companies such as Dow Chemical, DuPont, Honeywell, and Marathon Petroleum, uses its vast resources to undermine science-based chemical policies that would serve to protect public health and the environment. From fighting green building standards to baby bottle regulation to fracking chemical disclosure, the ACC has played a role in pushing for industry-friendly chemical policies that fail to protect public health, and it has often succeeded. For example, the ACC has been pushing to ensure that any changes to the outdated and toothless Toxic Substances Control Act (TSCA), enacted in 1976, promote member companies' business interests rather than public health. Its efforts are aimed at maintaining the status quo: Thousands of chemicals currently on the marketplace are untested and unregulated. The ACC has also actively fought science-based policies on the safety of chemical manufacturing facilities, leaving communities in the dark about chemicals in their backyard and workers and communities vulnerable to industrial accidents and environmental exposures.

Our chemical policies should protect our health, not the financial interests of companies. The ACC's tactics are neither new nor unique. Energy companies, for example, routinely hide behind trade groups, such as the American Petroleum Institute and the U.S. Chamber of Commerce, that work aggressively to oppose regulations that would require accountability for member companies (Goldman and Carlson 2014; Goldman and Rogerson 2013). We need greater transparency around the political activities of the ACC as with other trade associations so our national chemical policies can be informed by science.

> ***The ACC has played a role in pushing for industry-friendly chemical policies that fail to protect public health.***

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[CHAPTER 1]

A Major Lobbying Force

The ACC was formed in 1872 as the Manufacturing Chemists' Association (MCA) and adopted its current name in 2000. It has long been a powerful force in policy debates on chemicals, securing its preferred chemical policies at state, national, and international levels, even when such policies are not supported by science or by the public.

Back in 1962, biologist Rachel Carson's landmark book, *Silent Spring*, first alerted many to the impacts of industrially produced chemicals on our environment. The chemical industry took notice. Faced with changing public perception of the industry, the MCA spent $75,000—the equivalent of more than half a million dollars today—to counter the book's message and solicited further funding from its member companies to fight a growing environmental movement (Cushman 2001).

Today, the ACC boasts an annual budget of more than $100 million and a board membership that includes chemical production giants such as Dow and DuPont and petrochemical titans such as Marathon Petroleum and ExxonMobil. Funds devoted to lobbying by the chemical industry overall have more than doubled since 2005 to $64.9 million in 2014 (See Figure 1) (Mindock 2015). The ACC itself has increased spending on advertising, lobbying, and political contributions. Spending on some 6,000 political ads in the 2014 election cycle amounted to about $1.8 million (CREW 2014). And the trade group's federal lobbying expenditures totaled more than $23 million in 2013–2014, ranking the ACC as the twenty-fifth highest spender on federal lobbying in 2014 (CRP 2015a).

Political Contributions

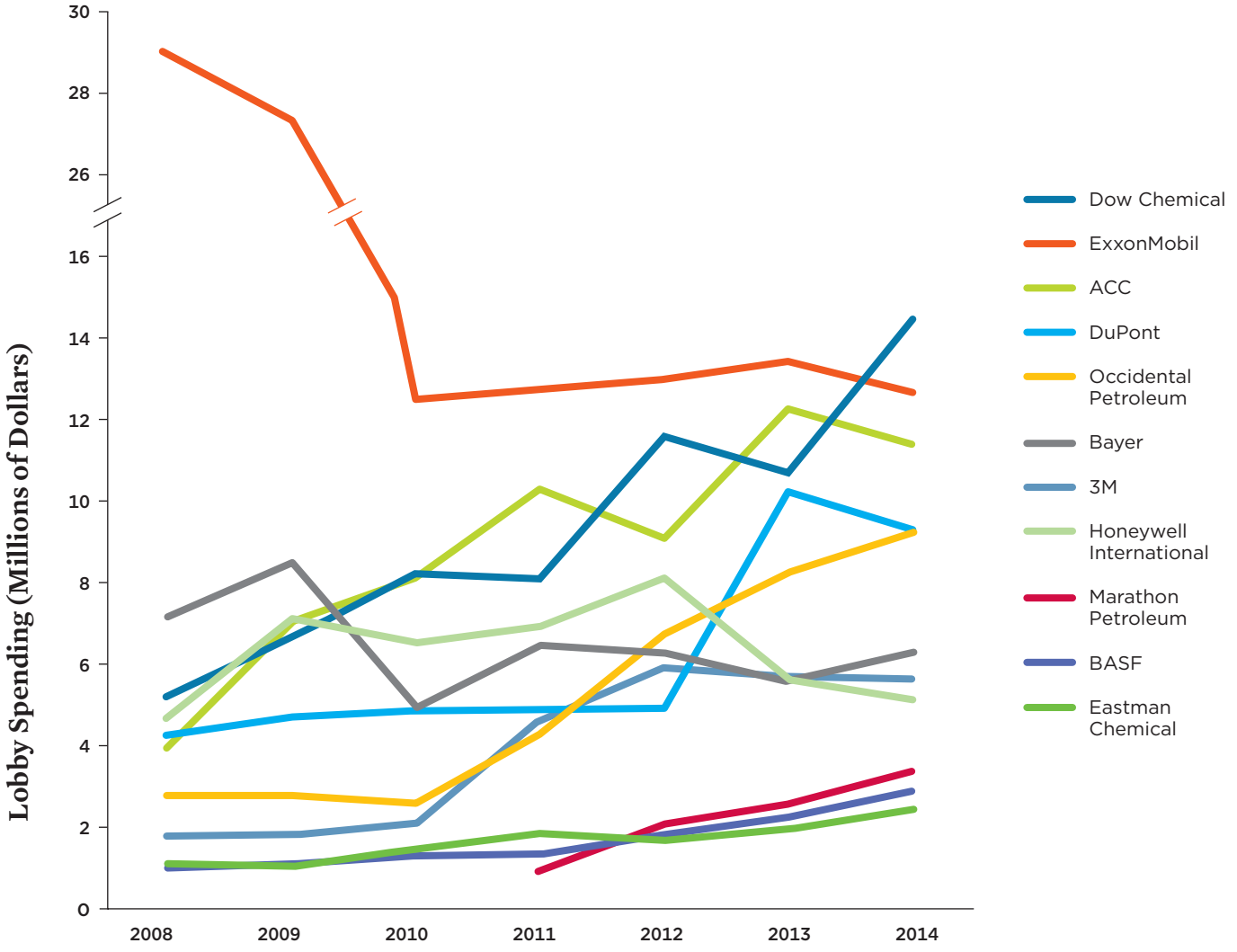
The ACC and its member companies also actively spend on political contributions to members of Congress, particularly to members on the two committees that oversee most chemical policy: the Senate Committee on Environment and Public Works (EPW) and the House Committee on Energy and Commerce (E&C).

David McKinley (R-WV) joined E&C in 2011, his first year in Congress. He received no contributions from the ACC or member companies in 2012. However, as committee work on chemicals significantly increased in the 2013–2014 cycle, he received $7,000 from the ACC and a combined $40,655 from the ACC and its member companies. Lamar Alexander (R-TN) left EPW in 2013. He received $22,000 from the ACC and its member companies in 2012 and nothing in 2014. Tom Carper (D-DE) has long served on EPW. In his most recent election year, he received over $100,000 from the ACC and its member companies (CRP 2015b).

[The ACC itself has increased spending on advertising, lobbying, and political contributions.]

Holding positions of power on these committees often means substantial contributions from the chemical industry. Since 2011, Fred Upton (R-MI) has served as Chairman of E&C. He has received over $100,000 from the ACC and its member companies in 2012 and 2014. John Shimkus (R-IL) is Chairman of the House Subcommittee on Environment and

FIGURE 1. Lobbying Spending by the American Chemistry Council and Select Member Companies (2008–2014)



As discussions of reforming the Toxic Substances Control Act (TSCA)—legislation that governs regulation of chemicals in commercial use—have heated up over the past several years, chemical industry lobbying has also increased. Shown here is lobbying spending by the ACC and the 10 ACC member companies that spent the most on lobbying in 2014. Together, these chemical industry actors spent $82,676,069 in 2014 alone. The ACC, for instance, has almost doubled its lobbying spending in the last several years, coinciding with discussion in Congress on reform of TSCA. Though 2015 data is incomplete, the ACC continued active lobbying as Congress debated TSCA reform throughout the first half of 2015.

Note: Marathon Petroleum formed in 2011 when it split off from Marathon Oil. ExxonMobil spent an all-time high on lobbying in 2008 ($29 million) and 2009 ($27 million), when there were climate-related bills active in Congress (CRP 2008).

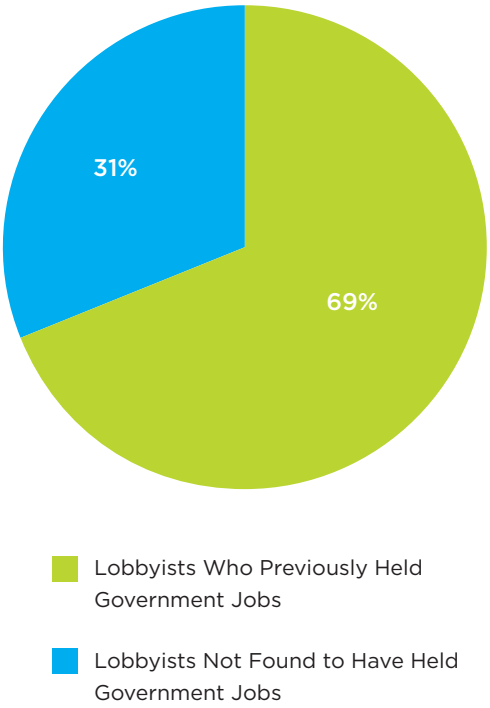
DATA SOURCE: CRP 2015B.

the Economy and has been a leader in the House on TSCA reform efforts. He has steadily received generous industry funding: about $73,000 in 2012 and almost $95,000 in 2014. James Inhofe (R-OK) saw a $34,000 jump in contributions from the ACC and its member companies in 2014 in his lead-up to becoming Chairman of EPW in January 2015. In 2014, Frank Pallone Jr. (D-NJ) became the ranking member on E&C. He saw a $22,000 jump in combined contributions from the ACC and member companies (CRP 2015b).

The Revolving Door

The ACC also devotes substantial resources to influencing the public and regulators. It has spent at least $8 million in recent

FIGURE 2. The Revolving Door and ACC Lobbyists 2013–2014



Of the 71 ACC federal lobbyists registered in the 2013–2014 election cycle, 49—or nearly 70 percent—have previously held jobs in Congress or in the executive branch of government.

DATA SOURCE: CRP 2014.

years on public relations firms and media monitoring services (ACC 2013a). The ACC may also have easier access to—and therefore may more easily influence—key decision makers in Washington, DC, than other stakeholders with lesser resources. Of the 71 ACC federal lobbyists registered in the 2013–2014 election cycle, 49—or nearly 70 percent—have previously held jobs in Congress or in the executive branch of government (see Figure 2) (CRP 2015a). Two of the trade group's current lobbyists—one is ACC president Cal Dooley—are former members of Congress (CRP 2015c). ACC member companies also hire lobbyists who have spun through this revolving door. In recent years, one DuPont lobbyist was former secretary of Energy, former deputy secretary of the Treasury, and former deputy secretary of Commerce; Honeywell employs a former U.S. ambassador and a former White House legislative assistant; Dow's roster includes a former congressional chief of staff; and Shell Chemical's includes both a former secretary of the Interior and a former deputy executive secretary of the Treasury (CRP 2015b).

State-Level Lobbying

At the state level, the ACC is active on a wide variety of issues (CRP 2015a). Last year, for example, the ACC was found to have ghostwritten legislation introduced in the Ohio state legislature. The bill, which passed the Ohio Senate in February 2014, mandated that government entities and state agencies would not be required to comply with the latest Leadership in Energy and Environmental Design (LEED) standards for energy-efficient buildings (Gearino 2014). The ACC opposed the LEED standards because they might discourage use of certain chemicals in building materials.

Also at the state level, the ACC has been an active member of the American Legislative Exchange Council (ALEC), a lobbying group known for connecting businesses and lawmakers, writing industry-friendly legislation, and working to challenge science-based policy proposals on everything from renewable energy standards to chemical policy reform (Fischer 2012). Membership in ALEC provides the ACC with added access to lawmakers and the ability to influence the development and passage of state policies directly. For example, the ACC created model legislation for TSCA reform that was officially approved by ALEC (ACC 2011a). With ALEC's help, the ACC sought to influence lawmakers to pass industry-friendly chemical policies.

> ***Membership in ALEC provides the ACC with added access to lawmakers and the ability to influence the development and passage of state policies directly.***

[CHAPTER 2]

Undermining the Science

Throughout its history, the ACC has advocated for minimal or no regulation of chemicals produced by its member companies, even when strong scientific evidence suggests adverse health or environmental impacts. When scientific evidence points to dangers associated with a chemical, the ACC has reliably sprung to action, following a pattern of response modeled by the tobacco industry: The group has denied the science, brought in its own experts to counter the scientific evidence, launched misleading advertising campaigns, and pressured decision makers to abandon any restrictions on the chemical's use. The examples below detail this pattern of obscuring scientific findings and obstructing policies designed to protect public health and safety.

Bisphenol A (BPA)

The ACC has fought against both federal and state laws aimed at regulating bisphenol A (BPA) for more than a decade (Jacobs 2011). BPA, a chemical whose global market value surpassed $13 billion in 2013, is an industrial chemical used in many plastics and can linings (GVR 2014). As the main industry group representing the five companies that produce BPA in the United States, the ACC spent tremendous resources lobbying government regulators and attempting to delay legislative process on the chemical (Case 2009).

HEALTH RISKS AND REGULATIONS

BPA is a chemical compound used as an additive in the production of polycarbonate plastics and epoxy resins. It can be found in beverage containers, compact discs, cash register receipts, dental sealants, and various food packaging (FDA 2015a; NIH 2010). Because foods are in direct contact with packaging material, small but measurable amounts of BPA can be ingested (FDA 2012a). In the 1930s, BPA was identified as an endocrine disruptor that mimics estrogen (Dodds and Lawson 1938). It is a reproductive, developmental, and systemic toxicant, especially harmful for children's health (EPA 2015a). Animal studies also suggest that BPA exposure could lead to reproductive disorders, diabetes, and cardiovascular disease (FDA 2012a).

> ***Animal studies suggest that BPA exposure could lead to reproductive disorders, diabetes, and cardiovascular disease.***

In 2006, a meeting sponsored by the National Institutes of Health (NIH) and the Environmental Protection Agency (EPA) was held in Chapel Hill, NC, to evaluate the strength of the scientific evidence linking BPA and human health risks (Wetherill 2007). After assessing research results from nearly 700 studies published in peer-reviewed journals, the panel of 38 leading experts on BPA who attended the meeting produced the Chapel Hill Bisphenol A Expert Panel Consensus Statement. The experts found that "the wide range of adverse effects of low doses of BPA in laboratory animals ... is a great cause for concern with regard to the potential for similar adverse effects in humans" (vom Saal et al. 2007). In addition, seven review articles synthesizing developments in the science on BPA have also found significant risks associated with BPA exposure (Rancière et al. 2015; Caserta et al. 2014; Crain et al. 2007; Keri et al. 2007; Richter et al. 2007; Vandenberg et al. 2007; Wetherill et al. 2007).

Many countries have banned or limited the use of BPA. In 2010, Canada became the first country to declare that BPA may be toxic. Health Canada announced that "the potential of harmful effects of BPA during development cannot be dismissed and the application of precaution is warranted" (Canada Gazette 2010). The European Union (EU) banned the use of BPA in baby bottles in 2011 (EC 2011). In January 2015, a ban on BPA in all containers and utensils intended to come into direct contact with food took effect in France (Geueke 2015).

In the United States, food packaging is under the jurisdiction of the Food and Drug Administration (FDA), which has been slow to take regulatory action on BPA. The agency insists that "BPA is safe at the current levels occurring in foods" (FDA 2014a). The FDA did ban BPA from use in baby bottles and sippy cup products in 2012, but it did not do so until after the ACC filed a petition with the agency presenting data to suggest that BPA use in these products had already largely been abandoned (FDA 2012b).

Thus, despite leading experts expressing concerns about use of BPA in consumer products, the chemical remains largely unregulated in the U.S.

BOX 1.

Good Laboratory Practices, Not Good Science

Hundreds of independent studies have identified adverse health effects of BPA, yet the U.S. government has not taken steps to recognize these health concerns, nor to regulate BPA in a comprehensive way. One factor in this disconnect between the science on BPA and U.S. policies is the role the chemical industry has played in ensuring that these findings would not guide regulation. In order to protect its interests, the industry took advantage of the Good Laboratory Practices (GLP) rule.

GLP is a federal rule for conducting research on the health effects of drugs or chemicals. It was established in response to misconduct discovered in industry laboratories in the 1970s (FDA 2014b; Myers et al. 2009). The rule provides guidance on data management and lab practices; however, it does not dictate how experiments are designed. GLP dictates good record keeping, requiring researchers to supply their raw data to regulators. This allows scientists at federal agencies to check the data, analysis, and conclusions in studies conducted by the industry. For academic scientists, however, quality control is maintained through other mechanisms, including study design and peer review (Howard 2012). As a result, most GLP studies are private or industry-funded studies, while academic and governmental research institutions tend to follow NIH or other academic standards for conducting research.

Federal agencies—including the FDA and the EPA—have favored GLP studies over non-GLP studies which has led regulators to favor industry studies at the expense of independent research (Becker et al. 2009). This is the outcome that the chemical industry has advocated; the ACC has praised the GLP rule because it "allow[s] more meaningful statistical analysis" (Walls 2012;). Yet, leading experts in risk assessment have asserted that GLP is little more than record-keeping guidance and does nothing to improve study quality. Linda Birnbaum, director of the NIH's National Toxicology Program and National Institute of Environmental Health Sciences, noted that "using GLP in no way says that you asked the right questions. Academic research groups have their own quality controls, which tend to be very high level. From my point of view, that's a lot better than GLP" (Blake 2014). This exclusion of academic studies to the benefit of industry-funded studies has existed within federal agencies for more than 30 years, affecting regulatory decisions on everything from nicotine to the agricultural pesticide atrazine (Blake 2014; Howard 2012).

In its assessment of BPA, the FDA rejected from consideration the 700 relevant peer-reviewed studies evaluated by the 38 experts who developed the Chapel Hill statement because the studies did not adhere to GLP rules even though they did meet other standards set by the NIH (Myers et al. 2009). Instead, the FDA favored industry-funded studies and implied that non-GLP studies were not as reliable as the industry-affiliated GLP studies (Carra 2011; FDA 2008).

The agency relied primarily on two GLP studies, one funded by the ACC's American Plastics Council and the other by the Society of the Plastics Industry (Tyl et al 2008; Vogel 2008; Tyl et al. 2002). Independent scientists argued that these two industry-funded studies used methods that were outdated and incapable of detecting low-dose effects of BPA (Myers et al. 2009). Among other flaws, both studies used Charles River Sprague Dawley mice, later found to be immune to the effects of estrogen mimics like BPA (Blake 2014; Myers et al. 2009). The ACC has also provided funding to other academic scientists for their work on BPA, and all studies funded by the trade group have concluded that BPA exposure causes no harm (Main 2015; Case 2009).

Because of this biased assessment, BPA remains largely unregulated in the United States. While public pressure has moved the FDA and several states to ban BPA from baby bottles and sippy cups, the scientific advice found on federal agency websites regarding the health effects of BPA exposure remains limited.

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Bisphenol A (BPA), which has been identified as a reproductive and developmental toxicant, is used in many plastic products, such as baby bottles, compact discs, cash register receipts, and the ubiquitous disposable water bottle.

THE ACC MEDDLES WITH SCIENCE

The ACC has fought efforts to address the health concerns of BPA in legislative venues. The group spent $5.37 million on lobbying in the last quarter of 2011, just as Congress and government regulators were assessing the need to regulate BPA and formaldehyde (Howard 2012; CRP 2011).

In 2014, Senator Ed Markey (D-MA) sponsored a bill, backed by more than 34 health and environmental organizations and 20 labor groups, that would ban BPA and empower the FDA to reevaluate evidence on the safety of substances used in food and beverage containers (Markey, Capps, and Meng 2014). The ACC called the bill "unnecessary" and noted that it "ignores the expert analysis of government scientists at the [FDA] which strongly supports the continued use of BPA in food-contact materials" (Pearson 2014a). Given that the FDA relied primarily on industry-funded studies and dismissed academic studies in its assessment of BPA (see Box 1), a reanalysis of the existing evidence that incorporates all relevant independent science on BPA would likely lead the agency to reach different conclusions on BPA's safety.

In 2015, the ACC launched a campaign that downplays the risks of BPA with the slogan "Listen to the Science" (ACC 2015a). The campaign is designed to dispel consumer concerns about BPA by publicizing a minority of studies showing decreased risk to consumers from BPA while ignoring vast evidence that suggests adverse health effects associated with BPA exposure. The ACC lists 10 "key studies" on its Facts About BPA website, promoting the "safety" of BPA (ACC 2015b). Among the 10 listed studies, independent experts have shown that several are based on flawed methods, and three others were funded by the ACC's Polycarbonate/BPA Global Group (Myers et al. 2009; Tyl et al. 2008; Vogel 2008). On the webpage, each report is shown with a quoted sentence–seemingly pulled from the study—on BPA's safety. However, most of these quotations are actually pulled from another ACC webpage rather than from the study itself. The ACC's summary graphs and quotations on this page ignore the assumptions and limitations of the original reports, conveying misleading information to its audience.

In California, the ACC also interfered with the state's listing of BPA as a reproductive hazard. In April 2013, the California Office of Environmental Health Hazard Assessment (OEHHA) added BPA to its Proposition 65 listing of chemicals known to cause cancer or birth defects or other reproductive harm (ACC 2013b). The ACC challenged the listing in

court, and several days after the proposed listing was issued, the OEHHA was ordered to delist BPA. In December 2014, the Superior Court of California ruled that the OEHHA could proceed with the BPA listing, concluding that the objections the ACC had raised were "misinformed and confused" (Kar 2014; Superior Court of California 2014). On May 11, 2015, the OEHHA officially announced BPA's "female reproductive toxicity" (OEHHA 2015). Although BPA was ultimately designated to be toxic in California, the ACC's tactic of delaying reform in policy was effective: The listing came more than two years later than the state intended.

Flame Retardants

The ACC has been an active player in the debate on flame retardants, their effectiveness, and their health impacts. Flame retardants are chemicals added to commercial and consumer products in order to meet flammability standards. In the United States, the most common uses of flame retardants are in the manufacture of electronics, building insulation, polyurethane foam for furniture, wires, and cables (GSPI 2015a). These standards were initially aimed at delaying the ignition or spread of fire in order to save lives (EPA 2005).

UNINTENDED CONSEQUENCE

However, contrary to the safety claims that many chemical companies made, many flame retardant chemicals can make fires more toxic by forming deadly gases or soot (NRDC 2014; EPA 2005). Moreover, evidence suggests that flame retardants may also be limited in their effectiveness at slowing fire. Researchers have shown that flame retardants—at the level typically found in furniture—do little to delay the spread of fire (Roe and Callahan 2012).

Because flame retardants are in everything from furniture to electronics to clothing, there are big repercussions for the industry if scientific evidence shows that these products are harmful or ineffective. For example, in the fabrics sector alone, the flame retardant industry is worth more than $3.8 billion worldwide (Market Publishers 2015). The chemical industry has therefore fought aggressively to maintain and increase the use of flame retardants in products, despite evidence of their ineffectiveness and toxicity.

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Flame retardant chemicals, which can be found in clothing, electronics, and mattresses, have proven not only to be ineffective at delaying the spread of fire, but can actually make fires more toxic. California has taken the lead on regulating the use of flame retardant chemicals, including banning two types.

Studies have linked exposure to flame retardants to lower IQ in children, early puberty in girls, endocrine disruption, birth defects, and cancer (Linares et al 2015; OEHHA 2011; McDonald 2002). Children, industry workers, and firefighters are most vulnerable to flame retardant exposure; however, most people are surrounded by these chemicals every day. Flame retardants can escape from couches, televisions, or even baby products and settle into dust (EPA 2015b). The dangerous dust particles may be then either inhaled or ingested (EPA 2013).

Studies have linked exposure to flame retardants to lower IQ in children, early puberty in girls, endocrine disruption, birth defects, and cancer.

Many classes of flame retardant persist in the environment and are bioaccumulative, meaning they can lead to contamination up the food chain (GSPI 2015b). Polybrominated diphenyl ethers (PBDEs), previously one of the most common flame retardants, are described by the EPA as "persistent, bioaccumulative and toxic to both human and the environment" (EPA 2015b). Studies have found that the concentration of PBDEs is 10 to 1,000 times higher in children in California than in children in Europe, where PBDEs aren't needed to meet flammability standards (Rose et al. 2010). In the EU, two PBDE mixtures are banned in higher concentrations and the use of others is restricted (EFSA 2014). In 2010, over 200 scientists from 30 countries signed the San Antonio Statement on Brominated and Chlorinated Flame Retardants, which outlined the dangers of these chemicals, expressed concern about the lack of comprehensive toxicological information, and urged governments to take actions that would limit people's exposure (DiGangi et al. 2010).

REGULATION OF FLAME RETARDANT CHEMICALS

Despite this evidence of health concerns, there is no U.S. federal rule governing the use of flame retardants in either public or private places. The national standard, NFPA701, was developed by the National Fire Protection Association to test which textile materials can be considered flame retardants (NFPA 2015). This standard is performance based and provides no specific target for particular chemicals to meet in order to be considered a flame retardant, nor does it address toxicity (EPA 2005).

California has the only state law for furniture flammability standards and was the first state to take regulatory actions (B&D 2014). The California Air Resource Board deemed two types of PBDE (Penta-BDE and Octa-BDE) toxic, and a ban against them became effective in 2006 (CARB 2015). In 2011, the OEHHA listed another flame retardant chemical, chlorinated tris (TDCPP), as a chemical known to cause cancer (OEHHA 2011). In 2013, California enacted Technical Bulletin 117-2013, a smolder standard for upholstered furniture that can be met without the need for flame retardants (CADCA 2013). In 2014, the state required upholstered furniture containing flame retardant chemicals to be labeled as such (BEARHFTI 2014). Even though some flame retardants have been phased out, exposures to these harmful chemicals will continue for a long time due to human contact with items manufactured before the furniture flammability standard was updated. (CERCH 2015).

THE ACC GETS INVOLVED IN CALIFORNIA

As California has moved to change flammability standards so flame retardants were no longer needed in furniture and baby products, the ACC and its allies have gone on the defensive. They built a website, *flameretardantfacts.com*, to spread misleading ideas that these chemicals are safe and effective (ACC 2015c). On the website, the trade group has emphasized that the EPA had identified approximately 50 harmless flame retardants, but has made no reference to the numerous halogenated and organophosphorous flame retardants currently in use that do pose health risks (GSPI 2015b; OEHHA 2008). The group also used fear tactics to encourage people to support the use of flame retardants, even though studies have shown their limited effectiveness. The ACC, for example, made statements such as "every 23 seconds, a fire department responds to a fire in the U.S."(ACC 2015d) without linking this statement to flame retardant effectiveness.

The ACC also paid external scientists to carry its talking points. In order to justify the use of flame retardants in products, the chemical industry hired scientist Matthew Blais to provide new "scientific" findings on the efficacy and safety of flame retardants (Row 2012). In a paper funded by the ACC, Blais—who had never previously published on flame retardants—reported that furniture with flame retardants was effective at delaying ignition and produced less toxic fumes when ignited (Blais 2013). Other scientists, however, heavily criticized the paper (Babrauskas et al. 2014). A leading fire scientist called the paper "exceedingly misleading" (Row 2012). In a rebuttal, she and other researchers noted that Blais's research did not use "realistic fire conditions" and

employed incomplete methods to detect the toxicity of the fabrics (Babrauskas et al. 2014; Row 2012). Notably, Blais did not disclose his industry funding as a conflict of interest to the journal. While the paper noted that the funding sources were the ACC and the North American Fire Retardant Association, there was no statement disclosing these "real or perceived conflicts of interest," as the journal required. Despite these criticisms, Blais has highlighted his paper as primary evidence supporting the effectiveness of flame retardant chemicals (DiGangi 2013).

The ACC has relentlessly lobbied against California bills that would have banned flame retardants starting in 2007 and has successfully defeated and delayed such proposals (Heath 2015). In 2013, the ACC opposed a California bill calling for the labeling of flame retardants. Together with the California Chamber of Commerce, the ACC argued that the bill was "scientifically unsound" (ACC 2014a). It exaggerated the safety of these chemicals and claimed, "Regrettably, if this proposed regulation moves forward, it will reverse a fire safety standard that has provided an important layer of protection to Californians for over 35 years" (Hawthorne, Roe, and Callahan 2013).

In addition to lobbying directly, the ACC also secretly supported an "astroturf" organization—a group pretending to be a grassroots organization—to deliver ACC messages to lawmakers (Heath 2015). The seemingly independent group, called Citizens for Fire Safety, defended the use of toxic chemicals as flame retardants while denying their health risks; the group was later unveiled as consisting solely of the three largest flame retardant producers in the state (Callahan and Roe 2012). The political consultant who ran Citizens for Fire Safety recently admitted in an interview that the ACC helped create the astroturf organization and frequently coordinated with him (CPI 2015; Heath 2015).

Beyond fighting legislation that seeks to restrict flame retardants, the ACC is also advocating for new standards that would require additional use of these chemicals. The trade group, along with flame retardant manufacturers, is currently calling for mandatory "candle-flame standards," which require that electronics not ignite when they come into contact with a candle flame. The standards are designed to protect electronics cases from external candle flame ignition (IEC 2014) and the ACC has insisted that "flame retardants help save lives" (ACC n.d.a). In reality, current electronics products are already well protected against internal heat and ignition and external fires started by candles are very unlikely; only a very small percentage of fire injuries and deaths are related to electronics (Blum and Balan 2015; Kirschner and Blum 2009). If a "candle standard" were to be required, millions of tons of hazardous chemicals would enter residential and commercial buildings (Blum and Balan 2015). This proposal has been rejected by California lawmakers numerous times since 2008 because of the potential health risks, harm to the efficient recycling of plastic, and lack of a proven fire safety benefit. Yet, the chemical industry continues to advocate for it (GSPI 2015c).

Formaldehyde

Through lobbying, meetings with federal agencies, and public comments, the ACC has worked to fight regulation of formaldehyde, a known carcinogen (Lipton and Abrams 2015). Formaldehyde is a colorless, flammable chemical widely used in building materials, medicinal and personal care products, and furnishings (CPSC 2013). The ACC and its allies have continued to push for delay and easing of an EPA rule on formaldehyde that the agency is expected to finalize this year (EPA 2015c).

A HISTORY OF CONCERN

Fumes from products containing formaldehyde can be harmful to human health, especially when they accumulate indoors at high concentrations (CPSC 2013). Short-term effects of formaldehyde exposure include nausea; headaches; and eye, nose, throat, and skin irritation. There is also evidence that it can exacerbate asthma (CARB 2005). Longer-term exposure has been linked to cancers in humans, including cancers of the nose and throat, lymphomas, and leukemia (NIH 2014).

> ***Short-term effects of formaldehyde exposure include nausea; headaches; and eye, nose, throat, and skin irritation.***

Formaldehyde was one of the 62,000 chemicals grandfathered in when TSCA was passed in 1976, meaning it could stay in use without testing to prove it safe (see Chapter 3 for more information on TSCA) (U.S. Congress 2002). Yet there have long been concerns about the health impacts of formaldehyde (see Box 2, p. 12). In 1981, the U.S. Department of Health and Human Services (HHS) listed formaldehyde as "reasonably anticipated to be [a] human carcinogen" in the National Toxicology Program's *Report on Carcinogens (RoC)* (NIH2014). In that same year, the National Institute for Occupational Safety and Health (NIOSH) also suggested that "formaldehyde be handled as a potential occupational carcinogen and that

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Despite having short-term negative effects and being classified as a known carcinogen, the ACC continues to tout the economic benefits of the formaldehyde while dodging discussion of the harm it can cause.

appropriate controls be used to reduce worker exposure" (CDC 1981). By 1987, the EPA had classified formaldehyde as a probable human carcinogen under conditions of unusually high or prolonged exposure (NCI 2011). The International Agency for Research on Cancer, part of the World Health Organization, concluded in 2004 that formaldehyde is a carcinogen for humans, and the HHS listed formaldehyde as a known human carcinogen in their *12th RoC* in 2011 (NIH 2014; IARC 2004).

DOWNPLAYING THE EFFECTS AND QUESTIONING THE SCIENCE

Despite the abundant scientific evidence that formaldehyde is harmful to human health, the ACC has long worked to downplay these risks and convince the public the chemical is safe. On its website, the ACC emphasizes the functionality and economic benefit of the chemical with no discussion of health impacts (ACC 2015e). In 2010, the ACC absorbed the Formaldehyde Council, an independent formaldehyde industry lobby group that had been politically active (see Box 2, p. 12), and replaced it with a newly formed Formaldehyde Panel to "support the needs of the formaldehyde industry" (ACC 2010).

The Formaldehyde Panel has a website, *formaldehydefacts.org*, that explains to curious consumers that formaldehyde "plays an invaluable role, its benefits have been improving our lives for more than a century" (ACC n.d. b). This website touts environmental benefits of using formaldehyde, such as decreasing wood waste, and emphasizes the low bioaccumulation of formaldehyde, meaning that it quickly breaks down in the environment, while downplaying health concerns. The website incorrectly assures consumers that formaldehyde is strictly regulated by several agencies and that voluntary industry standards protect consumers. The limited discussion of specific health effects, buried in an FAQ document, erroneously casts doubt on health studies that establish links to cancer and asthma and claims that normal indoor exposure is much too low to harm humans (ACC 2011b).

After formaldehyde's listing as a known carcinogen in the *12th RoC*, Cal Dooley, president and CEO of the ACC and a former member of Congress, submitted testimony to a 2012 hearing of the House of Representatives on the *RoC*. In his testimony, Dooley questioned the "relevance and necessity of the *RoC*" and suggested that such "duplicative and unnecessary

chemical evaluation programs should be eliminated" (Dooley 2012). Using familiar delay tactics, the industry group persuaded Congress that the findings of both the *RoC* and the EPA's concurrent draft Integrated Risk Information System assessment of formaldehyde were wrong and should be reviewed by the National Academy of Sciences (NAS) (Heath 2014).

In a 2011 report, the NAS had criticized the EPA for not giving a clear explanation of its finding of a link between formaldehyde and leukemia; however, the NAS was critiquing the EPA's narrative, not asserting that its findings were incorrect (NAS 2011; NIH n.d.). Yet this statement was used by the chemical industry to interfere with formaldehyde evaluations, calling for delays to the next *RoC* until the NAS had completed more reviews (Dooley 2012). In 2014, after conducting a peer review of the *12th RoC* and an independent assessment of formaldehyde literature, the NAS concluded that "formaldehyde should be listed as 'known to be a human carcinogen'"—the same conclusion that the 2011 report had reached three years earlier (NAS 2015).

DELAYING FEDERAL ACTION

The ACC has played a major role in delaying a national standard on formaldehyde in wood products. In 2008, the EPA received a citizens' petition asking the EPA to adopt at the federal level California's composite wood products regulations designed to control formaldehyde emissions (EPA 2015d). In 2010, the Formaldehyde Standards for Composite Wood Products Act, or Title VI of TSCA was signed by President Obama, prompting the EPA to move forward with proposed rules (EPA 2015d; EPA 2010). The law established limits for formaldehyde emissions from composite wood products that mirror those set by the California Air Resources Board for products in that state. The EPA has accordingly set forth two proposed regulations; however, five years later, there are still no national standards in place (EPA 2015d).

The ACC has played a major role in delaying a national standard on formaldehyde in wood products.

The ACC has worked to delay a final rule and has submitted numerous public comments on the proposed rule, working to undermine lawmaker confidence in the EPA's health benefit findings (EPA 2014a). The ACC is strongly against part of the

BOX 2.

A History of Delay on Formaldehyde Rules

The ACC does not act alone when it tries to influence policy discussions. The chemical industry has long worked with politicians to delay the regulation of formaldehyde, a chemical known to be harmful. Koch Industries, the second-largest privately held company in the United States, has also lobbied against formal recognition of formaldehyde as a carcinogen (Wang 2010). Georgia-Pacific Chemicals, one of the largest formaldehyde producers in the United States, became a Koch Industries subsidiary in 2005 (Berman and Terhune 2005).

Between 2005 and 2010, the Formaldehyde Council, a pro-formaldehyde lobby group, spent $780,000 on lobbying (CRP 2015d). The Formaldehyde Council has received major funding from Georgia-Pacific and been chaired by Richard Urschel, the president of the Georgia-Pacific chemicals division (Formaldehyde Council 2007).

Koch Industries is one of the biggest campaign contributors to Senators James Inhofe (R-OK) and David Vitter (R-LA). Both senators have been active in delaying regulation of formaldehyde (Sapien 2010). In 2004, Senator Inhofe persuaded the EPA to delay a planned formaldehyde health assessment revision (Inhofe 2004). When those findings were finally released in 2009, Senator Vitter pushed the EPA to send the formaldehyde assessment to the NAS for further, lengthy review. He blocked the nomination of an EPA official until the EPA agreed to do so, despite EPA statements that the review was unnecessary (Sapien 2010; ProPublica 2009). This move earned high praise from the Formaldehyde Council (Sapien 2010). In 2010, Senator Vitter received over $70,000 from chemical and related manufacturing industries (CRP 2010). Moreover, of the 13 scientists selected to the review panel to provide public comments for the NAS formaldehyde review, two had previously worked for or received support from formaldehyde-related industry (ProPublica 2009).

In 2010, the ACC replaced the Formaldehyde Council with the newly formed Formaldehyde Panel to continue promoting its message that formaldehyde is safe and delaying rule making concerning the chemical (ACC 2010). Georgia-Pacific was a key founding member of the Formaldehyde Panel.

rule that favors the use of resins with no added formaldehyde and has questioned the science and cost–benefit analysis the EPA has used in its public comments on the rule (Morrill 2014). In his 2013 comments to the EPA, Jackson Morrill, the director of the ACC Formaldehyde Panel, suggested that the EPA "substantially revise the health basis for the benefits evaluation to accurately convey the weight of the evidence and best available science" (Morrill and Brust 2013).

Members of Congress who receive significant contributions from the chemical industry have pressured the EPA to go through endless reviews of its formaldehyde findings, and White House records show visits from top chemical lobbyists, hinting at their influence on the final rule-making process (Lipton and Abrams 2015). For instance, in a June 2012 Office of Management and Budget meeting record regarding formaldehyde emissions standards for composite wood products, meeting materials submitted include an ACC report entitled *The Economic Contributions of Formaldehyde in Building & Construction* (OMB 2012). The report claims to detail the "essential role that formaldehyde has in supporting the broader U.S. economy," but never once mentions the health impacts of formaldehyde (ACC 2011c).

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Breathing in the fine dust created when cutting, grinding, drilling, or mining materials containing silica may result in silicosis, making construction workers especially vulnerable to this respiratory disease. In 2013, OSHA proposed new regulations designed to limit workers' exposure, but the ACC has strongly opposed the changes, leaving the proposed rule in legal limbo.

Silica

The chemical industry has long fought the Occupational Safety and Health Administration (OSHA) on regulation of silica (also known as quartz or silicon dioxide), which has been linked to silicosis, a serious and sometimes fatal disease affecting thousands of workers.

Silica exists in more than one form; its most common form is crystalline silica (NCEA 1996). Silica is widely used in the construction, food, pharmaceutical, and many other industries (Martin 2007). Concrete, bricks, glass, and various medicines contain silica. The fine dust created when cutting, grinding, drilling, or mining materials containing silica may result in silicosis (OSHA 2015a).

Silicosis is an irreversible disease caused by exposure to respirable crystalline silica dust (ALA 2015). During inhalation, tiny, invisible particles enter the respiration system; the damage they cause may lead to shortness of breath, fever, fatigue, chest pain, or even respiratory failure (OSHA n.d.). There are at least 1.7 million U.S. workers at risk for silicosis (CDC 2015).

Silica has been linked to silicosis, a serious and sometimes fatal disease affecting thousands of workers.

OSHA TRIES TO PROTECT WORKERS

Silicosis cannot be cured, but it can be prevented. OSHA requires hazard communication training for workers who may be exposed to silica and confines silica exposure to Permissible Exposure Limits (PELs) (OSHA 2015b). The PEL is the maximum amount of airborne dust an employee may be exposed to during a full work shift (OSHA 2015c). The silica PELs are more than 40 years old, and OSHA has admitted they are "outdated, inconsistent between industries and do not adequately protect worker health" (OSHA n.d.).

In 2013, OSHA proposed to amend the PELs to better protect workers exposed to potentially harmful silica dust. OSHA planned to tighten the current 100 to 250 milligrams per cubic meter PEL to 50 milligrams per cubic meter based on an eight-hour time-weighted average (OSHA 2013). OSHA estimated that this tightened standard would save nearly 700 lives and prevent nearly 1,600 new cases of silicosis annually (OSHA 2015b; 2013c).

THE ACC FIGHTS AGAINST WORKER SAFETY

The ACC and other chemical industries strongly opposed the OSHA proposal as the new rule could have required capital

While thousands of exposed workers developed silicosis and died, the industry hired firms to run counter analyses to suggest no link between silica exposure and silicosis.

investment and technology upgrades (ACC 2013d). In response to OSHA's proposed silica rule change, the ACC testified in a hearing in 2014, challenging the scientific basis for the rule (Morrill, King and Martella 2014). Despite longstanding and numerous studies demonstrating the public health dangers of silica, the trade group asserted that the strong scientific evidence was "not trustworthy" and "not ready for prime time" (Iafolla 2014). The Crystalline Panel division of the ACC released a statement calling itself "committed to the prevention of adverse health effects" resulting from respirable silica dust, despite also noting that the panel does "not believe there is a need for a new crystalline silica standard" (ACC 2013c). Such assertions follow a decades-long fight by the chemical industry to cast doubt on the health effects linked to silica exposure. While thousands of exposed workers developed silicosis and died, the industry hired firms to run counter analyses to suggest no link between silica exposure and silicosis (Michaels 2008).

A letter signed by 16 senators was submitted in 2013 to OSHA requesting an extension of the hearing process and asking for a Small Business Advocacy Review Panel (Alexander et al. 2013). The 16 senators received a total of $151,266 three months before the letter was signed from a number of OSHA-opponent groups, including the ACC (Costa 2014). The rule proposed by OSHA in 2013 is still tied up in the rule-making process, while workers continue to be needlessly exposed to the harmful effects of silica.

Spray Polyurethane Foam

The ACC is currently working to undermine California's Green Chemistry Initiative, a program designed to encourage companies to choose safer alternatives in chemical manufacturing processes. On the state's list of priorities are harmful chemicals in spray polyurethane foam (SPF), a building insulation material. The ACC wants California to drop SPF from the list.

Evidence suggests that SPFs containing diisocyanates have adverse impacts on workers during application and can expose others to diisocyanates after they are applied (DTSC 2014). Diisocyanates are respiratory, skin, and mucus membrane toxicants, and they can cause asthma or trigger severe asthma attacks in sensitive populations (DTSC 2014). NIOSH has found that repeated exposure has led to death (NIOSH 2006, 1994). These chemicals are used frequently even though safer alternatives are on the market.

IGNORING THE SCIENCE

Despite the scientific evidence on the health impacts of SPFs, the ACC asserted in its public comments to the agency that SPF products are safe and do not expose consumers to risk and, therefore, should be removed from the state's priority products list (ACC 2014b). Further, the trade group noted in a recent *Sacramento Bee* piece that there have been "no documented cases of health concerns related to the product in California" (Shestek 2015). A subsequent letter by Meredith Williams, the deputy director of the Safer Products and Workplaces Program at the California Department of Toxic Substances Control, countered the ACC's arguments, noting the collaborative selection process leading to the program's priority list of chemicals, including some found in SPFs, and affirmed that "the choice of consumer products is grounded in science" (Williams 2015).

STATE PREEMPTION AND CALIFORNIA'S GREEN CHEMISTRY INITIATIVE

The ACC has focused on programs like California's Green Chemistry Initiative because in many cases a state can move faster to protect public health by setting stronger standards than can the federal government under TSCA. The industry then has to meet these stronger standards if it wants to sell products in that state. In some cases, stronger state standards force industries to meet these standards nationwide—often because it is not cost effective to manufacture products to varying standards. Industries therefore often resist such state efforts. California has frequently led the way in terms of improving standards. But the groundbreaking Green Chemistry Initiative may become obsolete if federal chemical law changes, as described in Chapter 3.

[CHAPTER 3]

The ACC's Push Against Chemical Policy Reform Today

Toxic Substances Control Act

The ACC has been active in policy debates on proposed updates to the 1976 TSCA. While public health, environmental, and community groups have been advocating for policies that would better protect people from potentially harmful chemicals in products we all use, the ACC has worked to get more industry-friendly provisions into the law (SCHF 2015).

AN OUTDATED AND INEFFECTIVE LAW

TSCA is the last of the major environmental laws passed in the 1970s to undergo a major update. Although well intentioned, the law has proven ineffective. TSCA charges the EPA with evaluating the safety of chemicals in commercial use and regulating those it finds to affect human health adversely. But lack of funding for the EPA to carry out its mandate, endless review and comment from the industry, and an unreasonable burden of proof placed on the EPA have meant little progress. In fact, the agency has been able to complete reviews for and issue bans or restrictions on only five chemicals in use at the time TSCA was passed and on only four new chemicals during the nearly four decades the law has been in place (Weatherford and White 2015): That's only nine chemicals out of some 84,000 currently registered for commercial use in the United States (Weatherford and White 2015).

TSCA allowed for the grandfathering of more than 62,000 chemicals that were already in use at the time the law was passed. Companies could continue using these chemicals—including formaldehyde and asbestos—without proving their safety. Rather, the burden of proof falls to the EPA to demonstrate they pose an "unreasonable risk" before they can require companies to gather and supply them with toxicity and exposure information (OIG 2015). Yet when the EPA found that asbestos "poses an unreasonable risk to human health" and issued a rule to ban products containing asbestos, the industry sued. The court overturned major portions of the rule, claiming that the EPA had not—as TSCA requires—sufficiently proved that a ban was the "least burdensome" means of forcing the industry to meet the "minimum reasonable risk" threshold (United States Court of Appeals 1991). Many products containing asbestos are still in circulation in the United States today (EPA 2015e).

The Government Accountability Office (GAO) has also noted TSCA's limitations. Since 2009, the agency has included "Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals" on its High Risk List, a biannual report that calls attention to agencies and program areas most in need of transformation. In its report, the GAO cited concerns that the EPA is not able to conduct timely and credible assessments of chemical risks (OIG 2015).

Yet when the EPA found that asbestos "poses an unreasonable risk to human health" and issued a rule to ban products containing asbestos, the industry sued.

> ***A federal chemical policy that preempts state policies would mean that more-protective state chemical policies could not be enacted or enforced.***

The EPA has made efforts to better manage chemicals under TSCA, including by implementing the Existing Chemicals Program Strategy in 2012 to focus and streamline agency efforts on priority chemicals. Yet operating at its current pace under TSCA requirements, it would take at least 10 years to complete risk assessments for the 83 chemicals identified in these work plans (OIG 2015). As a result of TSCA's ineffectiveness, many chemicals scientifically determined to be harmful go unregulated—and many more go unstudied, leaving the public at risk and in the dark when it comes to protecting themselves from exposure to toxic chemicals.

PREEMPTION OF STATE POLICIES

In the absence of effective federal protection, many states have stepped in and issued regulations for hazardous chemicals. For instance, states including California, Washington, Maine, Connecticut, and New York have passed chemical legislation that protects the public from harmful chemicals better than do federal standards. Yet the ACC has supported TSCA reform bills that include preemptions of state policies (ACC 2015f). A federal chemical policy that preempts state policies would mean that more-protective state chemical policies could not be enacted or enforced.

Adding a preemption clause to TSCA is desirable to the chemical industry because it allows the industry to comply with just a single standard and it may allow for weaker standards overall, given the limited capacity of the EPA to study and regulate chemicals. As a result, the industry would be able to continue business as usual, manufacturing chemicals under fewer restrictions and without investing in or shifting to safer chemicals.

CONGRESS TAKES UP TSCA REFORM

Many bills that have attempted to reform TSCA and strengthen the EPA's authority on chemical safety have been proposed, but none have passed Congress as of July 2015.

Two bills are currently being considered by Congress. In their current forms, neither the Senate bill, approved by EPW on April 28, nor the House bill, approved by the House on June 23, represents a fundamental reform of the current law. Both bills contain language that would preempt states from imposing their own protective regulations, although the House bill gives states more freedom to regulate chemicals until the EPA actually takes action. Under current Congressional proposals, it would take the EPA 50 years or more to assess even 1,000 of the most toxic chemicals in commerce. The ACC has endorsed both bills.

THE ACC LOBBIES ON TSCA

The ACC set up a website, *reformtsca.com*, to support its preferred version of TSCA reform and ACC representatives have testified in Congress in support of reform on several occasions (ACC n.d. c). As noted in Chapter 1, the trade group has used tremendous resources to influence TSCA reform since Congress began discussing the issue in 2008; lobbying spending climbed from about $2.4 million in 2007 to about $10.3 mil-lion in 2011 (see Figure 1, p. 3) and has stayed between $9 million and $13 million a year since (CRP 2015a; Kopp 2014). In 2013, Senator Tom Udall (D-NM) took Senator Frank R. Lautenberg's (D-NJ) place as lead Democrat sponsor of the Chemical Safety Improvement Act (CSIA). Although Senator Udall had received no funding from the ACC prior to taking Senator Lautenberg's place, by 2014, he ranked fourth among recipients of contributions from the ACC with $13,500. In the last election cycle, Udall raised over $49,000 from the chemical industry, more than 16 times the amount these companies contributed to him before 2013 (Choma 2015). The CSIA was the ACC's most lobbied issue in 2014 and Udall co-sponsored a bill very similar to CSIA in 2015(CRP 2015a).

ACC lobbying is bolstered by member-company lobbying. For example, Dow Chemical, DuPont, and 3M have all substantially increased lobbying spending since 2007; all three lobbied multiple times on the CSIA in 2014 (CRP 2015e).

> ***ACC lobbying is bolstered by member-company lobbying. For example, Dow Chemical, DuPont, and 3M have all substantially increased lobbying spending since 2007.***

BOX 3.

The Business Argument for Safer Chemicals and TSCA Reform

For a long time, groups like the ACC have dominated any discussion of reforming toxic chemical laws. Yet, as chemical policy debate continues in Congress and state legislatures, the American Sustainable Business Council (ASBC), a coalition of business organizations and companies committed to advancing sustainable market solutions and policies, has advocated for legislation that would eliminate unsafe chemicals, strengthen consumer confidence, and build new business opportunities (ASBC 2015a). Contrary to the ACC's position, the ASBC argues differently.

"We do not have to choose between profit and public or environmental health, but that there is a strong business case for a strategy that does pursue this triple-bottom line," writes David Levine CEO, American Sustainable Business Council.

Founded in 2009, the ASBC and its member organizations now represent over 250,000 businesses, and more than 325,000 business leaders. Its recent report, "Making the Business & Economic Case for Safer Chemistry," for instance, highlights significant market opportunity for safer chemicals (ASBC 2015b). The ASBC also helped launch the Companies for Safer Chemicals coalition in 2013 to promote the economic and business benefits of comprehensive and meaningful legislation to reform TSCA (ASBC 2015c). This initiative, representing thousands of businesses, is bringing a new business perspective to the TSCA reform debate in Congress, one that recognizes that government and business can work together to shape good regulations. The coalition seeks to reform legislation that clearly identifies unsafe chemicals, quickly takes them off the market, incentivizes safer chemicals and products, and promotes transparency throughout the supply chain.

Small business polling commissioned by the ASBC demonstrates how important chemical policy reform is to the business community (ASBC 2015d). Seventy-five percent of small business owners supported stricter regulation of chemicals used in everyday products, and 9 in 10 believe chemical manufacturers should be held responsible for ensuring their products are safe. At the same time, they see the opportunity to bring safer chemicals and products to market.

The work of the ASBC and its members indicates that there is a new independent counterweight business perspective that seeks to chart a new course for safer chemicals and a strong economy.

Safety at Chemical Manufacturing Facilities

The ACC has also worked to limit oversight of and public access to information about safety at chemical facilities and to prevent the systematic development of solutions that can reduce or remove chemical hazards.

In recent decades, about 30,000 documented accidents per year have occurred at U.S. chemical facilities, resulting in more than 1,000 deaths per year (CEG 2014). Recent studies have shown that 134 million Americans live in the vicinity of 3,400 facilities that use or store hazardous chemicals (Orum et al. 2014). At least one in three children in this country goes to school within areas described by the industry as "vulnerable" to the effects of a major chemical facility release (Frank and Moulton 2014). Although these risks are wide reaching, the families who live in the most vulnerable zones are disproportionately poor, African-American, or Latino (Orum et al. 2014).

Beyond these statistics, recent chemical catastrophes—in West, Texas; Elk River in Charleston, West Virginia; and Richmond, California—have demonstrated just how devastating being unprepared for accidents can be. Yet members of the public and local public safety officials often have little information about the chemicals stored and used in their communities or about the associated risks for explosion, spills, and accidental or intentional release of chemicals. Despite laws intended to promote sharing of information about local chemical hazards, there is often ineffective communication of these hazards to the public and local public safety officials. This failure to communicate persists and is potentially most tragic when community emergency responders respond to chemical fires and explosions at facilities.

But it doesn't have to be this way. Well-known and feasible shifts in technologies can produce dramatic reductions in chemical hazard risks to communities; in many cases, these shifts also result in money saved or improved production (Orum 2008). But the EPA does not require companies to document that they have investigated less hazardous alternatives or to justify ongoing use of extremely hazardous chemicals. Without such oversight from the agency, companies are often not motivated to make changes that would make their facilities safer.

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In 2013, an ammonium nitrate explosion at the West Fertilizer Company in West, TX, damaged or destroyed more than 150 buildings, injured more than 160 people, and killed 15 people, 10 of which were first responders.

THE EPA'S RISK MANAGEMENT PLAN RULE

In its recent Request for Information on how to improve chemical facility risk management programs (RMPs), the EPA noted that the section in RMP guidelines on emergency response coordination with local responders can be read as giving plant owners the choice of whether to be a "responding or non-responding facility" (EPA 2014b). In other words, operators can decide whether or not to equip their facility and train employees to respond to on-site emergency situations. If they do not undertake this preparation themselves, they are supposed to ensure that the site is included in the community emergency response plan. The EPA noted that "the majority of RMP facilities claim to be 'non-responding' facilities. However, during facility inspections, EPA has often found that facilities are either not included in the community emergency plan or have not properly coordinated response actions with local authorities" (EPA 2014b). In essence, current gaps in regulation and enforcement allow chemical facilities to abdicate responsibility for emergency response preparedness to local authorities without ensuring that local authorities have the information and capacity needed to respond. Moreover, the hazards documented in a facility's Risk Management Plans often dwarf local emergency response capacities (Rosenberg 2014).

It is difficult for the public to gain access to information about the risks associated with specific chemical manufacturing facilities, even though the EPA collects information from companies about these risks. To obtain such information, an individual must schedule an appointment at one of the EPA's or the Department of Justice's 81 reading rooms scattered around the country but then can view paper copies of risk information for only a limited number of facilities (EPA 2014c). No materials can be photographed or electronically copied in any way and only one reading room visit per month is permitted. Twelve states, including New Mexico, South Carolina, and Virginia, have no reading room location and some states have only one.

This limited-access system particularly shuts out people who may not live close to a reading room, have access to transportation, or have the ability to take time off work during open hours. People have a right to know about the risks in their community. But this rigid and inequitable provision of access to documents prevents most individuals from obtaining vital information and tends as well to hinder knowledge and development of solutions that reduce dangers to communities.

The hazards documented in a facility's Risk Management Plans often dwarf local emergency response capacities.

KEEPING THE PUBLIC IN THE DARK

The ACC was instrumental in putting this limited-access system in place. The 1990 amendments to the Clean Air Act required the EPA to publish regulations and guidance for chemical accident prevention at facilities that use extremely hazardous substances (EPA 2014d). Such facilities are required to submit an RMP to the EPA every five years. The law dictates that RMP information must be made public, because publicly available information encourages the public to hold companies accountable for their risks and companies may therefore choose safer procedures or chemical alternatives in response. For example, when the EPA published the Toxic Release Inventory (TRI) in 1986, new public awareness motivated many companies to decrease their chemical releases (Fields 1999).

The EPA originally proposed that risk information for chemical facilities be online in a searchable database. But it backed off this proposal after the industry claimed that an online database would make it easy for terrorists to find the information. The ACC advocated for limiting the accessibility of the information to EPA reading rooms and "commended the EPA" for retracting this proposal (Committee on Commerce 1999).

A revised EPA proposal provided for the chemical hazard information to be available in thousands of EPA, state, and local government offices as well as Government Printing

Office (GPO) repository libraries. Although this system would be less accessible than an online database, GPO repository libraries include public and university libraries and each state would have had at least seven locations where the public could obtain information. But this was more accessibility than the chemical industry wanted.

In a 1999 hearing of the House Committee on Commerce's Subcommittee on Health and Environment, Thomas Susman, a representative of the ACC's predecessor, the CMA, testified that such accessibility would create "burdens that are unrealistic, undesirable, and, in the end, unworkable" (Committee on Commerce 1999). He and the CMA prevailed.

The ACC and its members often point to the trade group's voluntary disclosure efforts. The 1984 Union Carbide plant accident in Bhopal, India, which killed and injured tens of thousands, raised U.S. public concern about chemical accidents. The U.S. government therefore began to consider how to promote chemical safety. Actions taken included development of the EPA's TRI as part of the 1986 Emergency Planning and Community Right-to-Know Act (EPCRA) (EPA 2015f; EPA 2014e)

The 1984 Union Carbide plant accident in Bhopal, India, which killed and injured tens of thousands, raised U.S. public concern about chemical accidents.

In 1988, just before release of the first year of TRI reporting data, the CMA launched the Responsible Care Program, which claims to "provide guidance for process safety management." Today, many ACC members participate in the program; however, the guidance is neither required nor verified, and it focuses on the "more universal" level of commitment to safety values, rather than individual and tangible plant safety. For example, during a 2015 chemical spill at a Laporte, TX, DuPont facility, which killed four workers, the company was

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In 1984, there was a gas leak at the Union Carbide pesticide plant in Bhopal, India. The leak exposed more than 500,000 people to methyl isocyanate, a highly toxic gas that is extremely hazardous to human health. The official death count following the disaster was 3,787, but an estimated 16,000 deaths have a occurred as a result of the gas exposure, while hundreds of thousands more were injured. The Indian government and local activists link the gas leak to loose management and poor maintenance, while Union Carbide claims the plant was sabotaged by a disgruntled employee.

quick to point out its participation in the Responsible Care Program, ironically demonstrating that companies participating in the program still have deadly accidents at their facilities (Pearson 2014b).

Today, the ACC spouts many of the same talking points it did when the EPA's RMP was first developed. During a 2014 EPA Request for Information on improving access to chemical risk information, the ACC in its public comment stated that it "strongly cautions EPA against attempting to ... make available in a broadly accessible way many of the documents" (ACC 2014c). Just as the group's representative testified in 1999, the ACC again asserted in 2014 that "increased public disclosure of information will raise security risks" and "will not improve community understanding of chemical risks" (ACC 2014c).

International Trade

The ACC has also sought to play a role in the outcome of international trade agreement negotiations. Working with decision makers, companies, and other partners on both sides of the Atlantic, the trade association is working to get its preferred provisions into the Trans-Atlantic Trade and Investment Partnership (TTIP) agreement.

The TTIP is aimed at increasing trade between the EU and the United States by minimizing trade barriers. Both the U.S. government and the chemical industry have claimed for years that EU chemicals legislation is a major barrier to trade (USTR 2015; Buonsante and Tuncak 2014).

In 2012, the ACC and CropLife America (CLA), a U.S. trade association representing manufacturers of pesticides and other agricultural chemicals, wrote to the U.S. Office of Chemical Safety and Pollution Prevention. The ACC and the CLA expressed objections to the EU's regulation of pesticides containing endocrine disruptors (EDCs). EDCs are known to cause health problems in both people and wildlife. When humans are exposed to EDCs through ingestion, inhalation, or the skin, these chemicals can cause altered reproductive function in both males and females; increased incidence of breast cancer; abnormal growth patterns and neurodevelopmental delays in children; as well as changes in immune function (Bergman et al. 2012). According to the ACC and CLA, such EU regulation of EDCs "would trigger negative and far-reaching impacts on global commerce" (Walls and Glenn 2012). They warned that EU adoption of an approach that differs so substantially from the U.S. approach would "likely put in place precisely the kind of regulatory barriers that a potential U.S.–EU Free Trade Agreement would be designed to address" (Horel 2015).

Beyond economic arguments, the trade groups also accused decision makers of making unscientific claims. In the letter, the ACC called the European Commission's proposal to regulate pesticides and other EDCs a "scientifically unjustified and unwise policy" and denied the health effect caused by EDCs (Walls and Glenn 2012). This accusation was made despite the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation. The REACH program involves an extensive scientific review process during which the European Chemicals Agency works with member states to conduct substance evaluations that assess the evidence for adverse effects of chemicals on human health.

The ACC called the European Commission's proposal to regulate pesticides and other EDCs a "scientifically unjustified and unwise policy" and denied the health effect caused by EDCs.

A leaked document from TTIP negotiations obtained by the Center for International Environmental Law in December 2013 brings to light the extent of the chemical industry's influence (ACC n.d.d). The document indicates that the ACC and its European counterpart, the European Chemical Industry Council, secretly proposed a draft text on regulatory cooperation for negotiators to consider, including in TTIP agreements (Buonsante and Tuncak 2014). The groups appeared to plan to use regulatory differences between the EU and the United States to slow regulatory developments at all levels, prevent the regulation of EDCs, and block efforts to promote substitution of all harmful substances with safer alternatives (Buonsante and Tuncak 2014).

Industry efforts seem to have paid off. In May 2015, the EU announced that it would delay implementation of its proposed pesticide law, which would have banned 31 pesticides containing EDCs (Brussels 2015).

TTIP negotiations are expected to continue for many months, and it is likely that the ACC and the chemical industry will continue to monitor and attempt to influence the final agreement in a way that favors chemical manufacturers at the expense of public health protections.

[CHAPTER 4]

Conclusion and Recommendations

The ACC is a consistent and pervasive force shaping our chemical policies at the state, national, and even international levels of decision making. It has worked to delay and weaken policies designed to protect the public from harmful chemicals. It has often pushed aside scientific evidence showing deleterious public health and environmental effects of chemicals in everyday use, and it has successfully secured policies that are friendly to the chemical industry. In many cases, its member companies, including Dow, DuPont, and 3M, have joined the trade group in these efforts to undermine science-based protections.

Our chemical policies should protect the public, not the chemical industry's profits. The chemical industry and its trade association should be held accountable for their work to influence decision makers and undermine science. The public has a right to know about the potential harm of the chemicals in the products around us as well as to know who is influencing our elected officials and regulators.

Chemical policies should protect the public.

- Congress should pass legislation to strengthen TSCA so that more chemicals are reviewed and regulated; people, especially vulnerable populations, are better protected from harmful chemicals; and regulations are better enforced. TSCA legislation should give the EPA the power to require that companies prove that new chemicals are safe before they can be placed on the market. It should also give the EPA the resources to assess and regulate the most dangerous chemicals in a timely manner. TSCA should respect the rights of states to impose their own restrictions on chemicals when the EPA fails to take action. TSCA should also make clear that the EPA may choose the most protective restriction, and should not be hobbled by having to prove that a restriction is cost-effective. TSCA should not dictate how the EPA uses science to inform its regulatory decision making.
- The United States should reject any international trade agreement that compromises science-based public health and safety protections concerning chemicals and other products in all participating countries.
- The EPA should revise the RMP to prioritize disaster preparedness, prevention, transparency, access to information, and overall industry accountability.
  - The agency should fully utilize web tools and social media to ensure timely, accessible, and public access to RMP information, especially during emergency situations, when timely communication and disclosure are of upmost importance.
  - The agency should require chemical facilities to evaluate, document, and use safer chemicals and

The chemical industry and its trade association should be held accountable for their work to influence decision makers and undermine science.

processes wherever possible to reduce risk to the public, plant workers, and emergency responders.

  - The agency should require companies to take greater responsibility for accident response and not allow companies to shift these costs to local governments.
  - The agency should require comprehensive reporting and investigation of all incidents—not just those resulting in death, injury, or significant damage—as this is an important step in understanding risks, improving best practices, and preparing for adequate emergency response.

The political activities of the ACC and its members need to be more transparent.

- The Securities and Exchange Commission should issue a rule that requires publicly traded companies to disclose both their direct and indirect political activities, as 1.2 million people have already asked the Commission to do through their support of a petition to require public companies to disclose to shareholders the use of corporate resources for political activities.
- Congress should approve the Democracy Is Strengthened by Casting Light on Spending in Elections (DISCLOSE) Act, or similar legislation, to enhance disclosure of indirect political contributions, such as those from trade and business associations.
- Investors and their representatives should pressure companies through letters, shareholder resolutions, and other mechanisms, to:
  - disclose all direct and indirect political spending, including trade group membership and support for outside organizations;
  - disclose whether they agree with the scientific and policy positions of their trade and business associations; and
  - influence the policy positions of their trade groups or leave groups that do not align with the scientific and policy positions of the company.
- Companies should:
  - insist that their associations accept the best-available science on chemicals and their impacts and urge them to adopt policy positions that reflect this acceptance; and
  - in cases of differences between company and trade group positions, publicly state such differences, attempt to influence the trade group's different positions from the inside, or leave the group if differences are irreconcilable (Caring for Climate 2013).
- Consumers should:
  - hold their congressional leaders and companies accountable by demanding access to information on the health and environmental effects of chemicals to which they and their families are routinely or potentially exposed; and
  - pressure companies to shift to safer chemicals and processes where strong scientific evidence exists for the ill-health effects of certain chemicals in commercial use.

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Bad Chemistry

How the Chemical Industry's Trade Association Undermines the Policies that Protect Us

> ***Throughout its history, the ACC has advocated for minimal or no regulation of chemicals produced by its member companies, even when strong scientific evidence suggests adverse health or environmental impacts.***

The American Chemistry Council (ACC) is the leading trade group for the chemical industry and has strong influence on chemical policies that affect millions of Americans. The ACC counts many major companies among its members and uses its vast resources to undermine science-based chemical policies that would serve to protect public health and the environment.

From fighting green building standards to baby bottle regulation to fracking chemical disclosure, the ACC has played a role in pushing for industry-friendly chemical policies at the state, national, and even international levels. For example, the ACC has actively fought science-based policies on the safety of chemical manufacturing facilities, leaving communities in the dark about chemicals in their backyard and workers and communities vulnerable to industrial accidents and environmental exposures.

We need greater transparency around the political activities of the ACC and other trade associations so our national chemical policies can be informed by science. Our chemical policies should protect the public, not the chemical industry's profits. The chemical industry and its trade association should be held accountable for their work to influence decision makers and undermine science. The public has a right to know about the potential harm of the chemicals in the products around us as well as to know who is influencing our elected officials and regulators.

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